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| APPLICATION NO.  | FILING DATE     | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO         |  |
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| 10/052,443   | 01/23/2002      | Hans-Henning Zutz    | 31624-177199        | 1950                    |  |
| 26694  | 7590 06/10/2003 |                      |                     |                         |  |
| VENABLE, BAETJER, HOWARD AND CIVILETTI, LLP<br>P.O. BOX 34385<br>WASHINGTON, DC 20043-9998 |                 |                      | EXAMINER            |                         |  |
|  |                 |                      | KYLE, MICHAEL J     |                         |  |
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|  |                 |                      | 3676                |                         |  |
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Please find below and/or attached an Office communication concerning this application or proceeding.

| Application No.   Application No.   Application No.   ZUTZ, HANS-HENNING   Examiner   Art Unit   Examiner   Ar |  |  |  | 7  |  |  |  |  |
|--|--|--|--|--|--|--|--|--|
| Examiner   |  |  | Application No.  | Applicant(s)   |  |  |  |  |
| Michael J Kyle   3678  |  |  | 10/052,443   | ZUTZ, HANS-HENNING   |  |  |  |  |
| The MAILING DATE of this communication appears on the cover sheet with the correspondence address — Period for Reply  A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.  Eatherson or time may be available under the processor of 3 CFR 1.138(a). In no event, however, may a 1eph be limely filled  Eatherson or time may be available under the processor of 3 CFR 1.138(a). In no event, however, may a 1eph be limely filled  Eatherson or time may be available under the processor of 3 CFR 1.738(b). In no event, however, may a 1eph be limely filled  Eatherson or time may be available under the processor of 3 CFR 1.738(b). In no event, however, may a 1eph be limely filled  If the period for reply specified above is less than theiry (50) days, a reply with the statutory entered with period with the period for reply specified and the specified and the statutory period will appear and will be constructed in the period for reply specified and the statutory period will appear and will be constructed and the specified and the communication.  Find period for reply specified above is less than their (50) days will be considered filled.  A prophressive to communication(s) filled on 5/23/03.  Prints action is FINAL.  2b) This action is non-final.  3c) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex partie Queryle, 1935 C.D. 11, 453 O.G. 213.  Disposition of Claims.  4) Claim(s) 1-7 is/are pending in the application.  4a) Of the above claim(s) is/are withdrawn from consideration.  5) Claim(s) is/are ellowed.  6) Claim(s) is/are objected to.  3) Claim(s) is/are objected to by the Examiner.  Application Papers  9) The proposed drawing correction filled on is/are: a) approved by the Examiner.  10) The drawing(s) filled on   | Office Action Summary  |  | Examiner   | Art Unit   |  |  |  |  |
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| THE MAILING DATE OF THIS COMMUNICATION.  Extensions of time may be waited builder the provisions of 3°C PR 1.13(b). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the maining also of this communication.  If the period or may be send the above is less than thing (70) days, a reply within the statutory minimum of thany (30) days will be considered freely.  If the period or may be send to above is less than the minimum of the communication of the communication is the period or reply will be statutory minimum of thany (30) days will be considered freely.  Failve to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (38 U.S.C. § 133).  Any reply received by the Official erb than three monims after the mailing date of this communication, even if timely filed, may reduce any exame placet term significant in the process of the communication  |  |  | ears on the cover sheet with the c   | correspondence address   |  |  |  |  |
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| 1. ☐ Certified copies of the priority documents have been received.  2. ☐ Certified copies of the priority documents have been received in Application No  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  * See the attached detailed Office action for a list of the certified copies not received.  14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  a) ☐ The translation of the foreign language provisional application has been received.  15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.  Attachment(s)  10 ☐ Interview Summary (PTO-413) Paper No(s)  51 ☐ Notice of Informal Patent Application (PTO-152)   | 13)⊠ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).   |  |  |  |  |  |  |  |
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| 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  * See the attached detailed Office action for a list of the certified copies not received.  14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  a) The translation of the foreign language provisional application has been received.  15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.  Attachment(s)  1) Notice of References Cited (PTO-892)  Notice of Draftsperson's Patent Drawing Review (PTO-948)  5) Notice of Informal Patent Application (PTO-152)   |  | 1. Certified copies of the priority documents have been received.  |  |  |  |  |  |  |
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| 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  5) Notice of Informal Patent Application (PTO-152)  |  |  | 2  | with the fi  |  |  |  |  |
|  | 2) 🔲 Notice  | e of Draftsperson's Patent Drawing Review (PTO-948)  | 5) Notice of Informal F  |  |  |  |  |  |

#### DETAILED ACTION

## Claim Objections

1. Claim 1 is objected to because of the following informalities: Line 9 of claim 1 reads "respective aid recesses". The examiner believes "aid" should be changed to --said--.

Appropriate correction is required.

### Claim Rejections - 35 USC § 103

- 2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:
  - (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.
- 3. Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morley et al (U.S. Patent No. 4,421,327) in view of Zutz (U.S. Patent No. 5,762,343).
- 4. Morley et al discloses a slide ring seal assembly comprising a slide ring (58) having an axially extending annular leg (114), the leg having radially outer (82) and radially inner (surface opposite 82) circumferential surfaces, and an axial free end. In addition, Morely et al discloses an annular sealing body (62) surrounding the leg (114) and being seated thereon, and a plurality of circumferentially spaced, radially inward oriented extensions (area between grooves 86) forming part of the annular sealing body. The inward oriented projections extend into recesses formed between lugs (76) on the radially outer surface.

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5. Morley et al does not disclose circumferentially spaced recesses provided in the leg at the free axial end thereof, each recess extending from the radially outer surface to the radially inner surface, or that the inward-oriented extensions of the annular sealing body project into respective recesses.

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- 6. Zutz teaches circumferentially spaced recesses (7) provided in a leg of a slide ring assembly at a free end thereof, the recess extending from one surface to another, opposite surface, and extensions of an annular sealing body (4) projecting into the recesses to improve adherence (column 2, line 67 column 3, line 3). Zutz further shows the recess to continue with an extending undercut provided in the leg (part of aperture 7, shown in the figure), and the at least one extension of the annular sealing body (4) continues with a projection received by the undercut. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the axial leg of Morley et al by including recesses as taught by Zutz in order to improve adherence of the seal body to the seal ring.
- 7. With respect to claim 3, Morley et al discloses the leg to have, at the axial free end, on the radially outer surface, a circumferentially extending enlargement (76).
- 8. With respect to claim 4, Morley et al discloses the seal ring to be generally L-shaped (column 2, line 37) and have a radially extending slide sealing surface (110, 112).
- 9. With respect to claim 5, Morley et discloses a pair of sealing rings (56, 58) having their respective slide sealing surfaces in contact (110, 112), and a respective sealing body (60, 62) for each of the sealing rings.

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10. With respect to claim 6, Morley et al discloses the sealing ring to be formed of metal (column 4, line 3) and the sealing body to be formed of a resilient material ("elastomeric", column 4, lines 4 and 5).

11. With respect to claim 7, Morley et al discloses the sealing body to have a generally trapezoidal cross-section (see figures).

### Response to Arguments

12. Applicant's arguments with respect to claims 1-3 have been considered but are moot in view of the new ground(s) of rejection. These claims are now rejected under 35 U.S.C. 103(a) as being unpatentable over Morley et al (U.S. Patent No. 4,421,327) in view of Zutz (U.S. Patent No. 5,762,343). Zutz teaches a way of connecting a seal body to a seal ring a slide ring assembly that improves the adherence between the parts.

#### **Conclusion**

- 13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following references are cited to further show the state of the art with respect to slide ring assemblies: Utvitch, Blair, Ohtsuka, Zutz (U.S. Patent No. 5,642,890), and Bedford (U.S. Patent No. 6,086,069).
- 14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael J Kyle whose telephone number is 703-305-3614. The examiner can normally be reached on Monday Friday, 8:30 am 5:00 pm.

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15. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anthony Knight can be reached on 703-308-3179. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9326 for regular communications and 703-872-9327 for After Final communications.

16. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-2168.

mk

June 3, 2003

Anthony Knight

Supervisory Patent Examiner

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Tech Center 3600